

## REMARKS

Applicant amends claims 1, 3 and 10 and claims 1-3 and 10 remain pending in this application. Applicant respectfully requests allowance of all the pending claims.

### Claims Objections

The Examiner objects to claims 1, 3, and 10 because the Examiner believes that the limitation “driving a nail or screw through …” implies a method step, which according to the Examiner is unacceptable in apparatus claims. Therefore, Applicants amend the apparatus claims to instead recite “a nail or screw driven through . . .”. Applicant respectfully requests the Examiner to withdraw the objection to the claims.

### Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejects claims 1-3 and 10 under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 3,495,371 (“Mitchell”) in view of United States Patent No. 5,494,513 (“Fu”).

Amended independent claim 1 recites a frame assembly for use in construction of a building including, among other things, at least one precast fiber reinforced cellular concrete elongated linear structural member connected to at least one of a pair of precast fiber reinforced cellular concrete elongated linear structural members by a nail or screw driven through one and into the other to mechanically join them together.

Amended independent claim 2 recites a method for constructing a building using non-wood construction products including, among other things, driving a nail or screw through at least one precast fiber reinforced cellular concrete intermediate element or a precast fiber reinforced cellular concrete elongated first end element and into the other to mechanically join them together.

Amended independent claim 3 recites a structural frame for use in forming a building including, among other things, at least one of a plurality of precast fiber reinforced cellular concrete elongated intermediate elements connected to a precast fiber reinforced cellular concrete first end element by a nail or screw driven through one and into the other to mechanically join them together.

Amended independent claim 10 recites a frame assembly for use in construction of a

building including, among other things, at least one of a pair of precast fiber reinforced cellular concrete elongated linear structural members connected to at least one precast fiber reinforced cellular concrete elongated linear structural member by a nail or screw driven through one and into the other to mechanically join them together.

Claims 1, 3, and 10 each recite a frame assembly including a first precast fiber reinforced cellular concrete elongated linear structural member connected to a second precast fiber reinforced cellular concrete elongated linear structural member by a nail or screw driven through one and into the other to mechanically join them together. Claim 2 recites a method including, among other things, driving a nail or screw through one and into the other. Because claims 1-3 and 10 each recite similar limitations they are discussed together below.

The high-performance fiber reinforced cellular concrete products of the present invention can directly substitute for conventional wood lumber products for the use in structural frame assemblies because the products of the invention have load capacities in flexure, compression, tension, and shear equaling or exceeding the corresponding values for stud grade lumber commonly used in construction. In addition, the products of the invention possess the same workability, nailability, and sawability characteristics of lumber thereby allowing nails and screws to be driven directly through one structural member and into another. Previously, the physical characteristics of cellular concrete products did not allow these advantages.

Mitchell discloses a prefabricated concrete frame including steel reinforced cellular concrete structural members (12, 14, 16, 20) connected together by securing elements (Fig. 1). As best shown in Fig. 7, beam members (14, 16') include integrally-cast tubular metal members or sockets (76, 54, 56). To assemble the beam members (14, 16), the beam members must be arranged such that the sockets (76, 54, 56) are aligned with each other. After they are aligned, a spike (52) is placed within the sockets (76, 54, 56) and secured within the sockets (76, 54, 56) by grout. If it is not desired to add another story, modified spikes (80) are used. The spikes (80) include heads (82) that are spaced above a top layer of poured concrete (Fig. 8).

Fu discloses cellular concrete with a mineral addition of Zeolite. As suggested in lines 64-67 of col. 9, the lightweight concrete product can be used in wall construction.

The Examiner concedes that Mitchell does not specifically disclose driving the spike (52) through the structural members (12, 14, 16, 20), but states that it would have been obvious to one

having ordinary skill in the art to use a hammer to drive the nails into place in the members because spikes and/or nails are often driven into place by a hammer.

Applicant respectfully disagrees with the Examiner and submits that it would not have been obvious for one of ordinary skill in the art to use a hammer to drive the spikes of Mitchell into the sockets of Mitchell. Mitchell specifically places the integrally-cast sockets in strategic locations on the structural members so that the sockets of adjacent structural members align during assembly. The spikes then are received by the sockets and fixed into place by grout. There is no motivation to drive the spikes into the sockets with a hammer because Mitchell does not disclose the presence of any interference between the spike and the socket. On the contrary, Mitchell discloses that grout is needed to fix the spikes within the sockets. In light of Mitchell's detailed instructions of the socket and spike assembly, Mitchell actually teaches away from simply driving a nail or screw through one structural member and into another.

In addition, even if it was obvious for one of ordinary skill in the art to use a hammer to drive the spike of Mitchell, the Examiner's combination does not teach or suggest a nail or screw driven through one structural member and into another or driving a nail or screw through one structural member and into another. Rather, the spike (52) of Mitchell is placed through a socket (76, 54, 76) and into another socket (76, 54, 76). The spike is never driven through or into any structural member whatsoever.

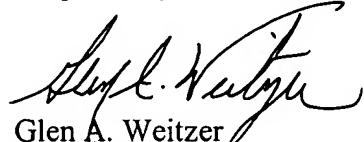
This distinction between Mitchell and the claims highlights the advantages of the present invention. Because the nails or screws can be directly driven into the structural members, there is no need to precast sockets into the structural members for receiving fasteners and there is no need to fix the fastener with grout after it is driven in place. These advantages of the present invention allow the freedom to drive a fastener at any desired location along the structural member, not just where a socket has been precast.

Accordingly, Applicant respectfully submits that the Examiner has failed to present a *prima facie* case of obviousness based upon the prior art as required by 35 U.S.C. §103(a).

Accordingly, claims 1-3 and 10 are allowable.

The Examiner is invited to contact the undersigned attorney should the Examiner determine that such action would facilitate the prosecution and allowance of the present application.

Respectfully submitted,



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